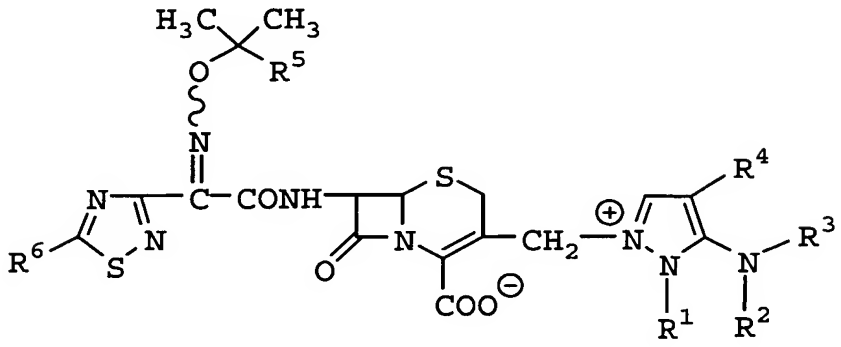
IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A compound of the formula [I]:



[I]

wherein

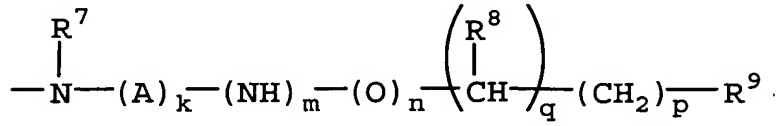
R^1 is lower alkyl, hydroxy(lower)alkyl or halo(lower)alkyl, and

R^2 is hydrogen, aryl(lower)alkyl or acyl ~~or amino protecting group~~, or

R^1 and R^2 are bonded together and form lower alkylene or lower alkenylene;

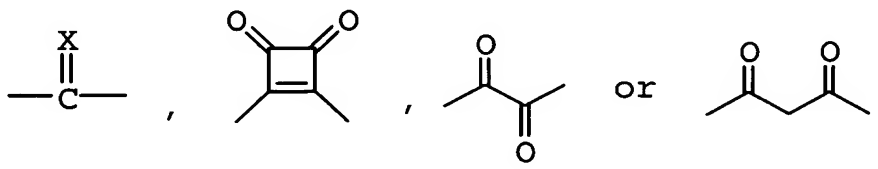
R^3 is hydrogen or lower alkyl;

R^4 is



wherein

A is



wherein X is O or NH,

R^7 is hydrogen, lower alkyl, aryl(lower)alkyl or acyl ~~or~~

~~amino protecting group~~,

R^8 is hydrogen or hydroxy,

R^9 is amino, mono or di(lower)alkylamino, aryl(lower)alkylamino, acyl amino~~protected amino~~, guanidino, ~~protected~~ acyl guanidino or saturated 3- to 8-membered heterocyclic group containing 1 to 4 nitrogen atoms optionally substituted by amino ~~or protected amino~~ , aryl(lower)alkylamino or acylamino,

k, m, n and q are independently 0 or 1, and

p is 0, 1, 2 or 3;

R^5 is carboxy or an esterified carboxy~~protected carboxy~~; and

R^6 is amino, aryl(lower)alkylamino or acylamino ~~or protected amino~~,

or a pharmaceutically acceptable salt thereof.

2. (Currently Amended) The compound of claim 1 wherein

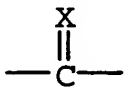
R^1 is lower alkyl or hydroxy(lower)alkyl, and

R^2 is hydrogen, aryl(lower)alkyl or acyl ~~or amino protecting group~~, or

R^1 and R^2 are bonded together and form lower alkylene;

R^3 is hydrogen;

A is



wherein X is O or NH;

R^7 is hydrogen, aryl(lower)alkyl or acyl ~~or amino protecting group~~;

R^9 is amino, aryl(lower)alkylamino or acylamino ~~or protected amino~~; and

p is 0, 1 or 2,

or a pharmaceutically acceptable salt thereof.

3. (Original) The compound of claim 2 wherein R^8 is hydrogen, or a pharmaceutically acceptable salt thereof.

4. (Original) The compound of claim 1 wherein

R^1 is lower alkyl, hydroxy(lower)alkyl or halo(lower)alkyl, and

R^2 is hydrogen, aryl(lower)alkyl or acyl, or

R^1 and R^2 are bonded together and form lower alkylene or lower alkenylene;

R^5 is carboxy or esterified carboxy;

R^6 is amino or acylamino;

R^7 is hydrogen, lower alkyl or acyl; and

R^9 is amino, mono or di(lower)alkylamino, acylamino, guanidino, acylguanidino or saturated 3- to 8-membered heterocyclic group containing 1 to 4 nitrogen atoms optionally substituted by amino or acylamino,

or a pharmaceutically acceptable salt thereof.

5. (Original) The compound of claim 4 wherein

R^1 is lower alkyl or hydroxy(lower)alkyl, and

R^2 is hydrogen, aryl(lower)alkyl or acyl, or

R^1 and R^2 are bonded together and form lower alkylene;

R^5 is carboxy or esterified carboxy;

R^6 is amino or acylamino;

R^7 is hydrogen or acyl; and

R^9 is amino or acylamino,

or a pharmaceutically acceptable salt thereof.

6. (Original) The compound of claim 5 wherein

R^1 is lower alkyl or hydroxy(lower)alkyl, and

R^2 is hydrogen, aryl(lower)alkyl, lower alkanoyl or lower alkoxycarbonyl, or

R^1 and R^2 are bonded together and form lower alkylene;

R^5 is carboxy or lower alkoxycarbonyl;

R^6 is amino, lower alkanoylamino or lower alkoxycarbonylamino;

R^7 is hydrogen, lower alkanoyl or lower alkoxycarbonyl; and

R^9 is amino, lower alkanoylamino or lower alkoxycarbonylamino,

or a pharmaceutically acceptable salt thereof.

7. (Original) The compound of claim 6 wherein

R^1 is lower alkyl or hydroxy(lower)alkyl, and

R^2 is hydrogen, or

R^1 and R^2 are bonded together and form lower alkylene;

R^5 is carboxy;

R^6 is amino;

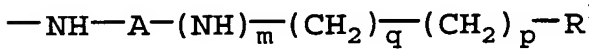
R^7 is hydrogen or lower alkanoyl; and

R^9 is amino,

or a pharmaceutically acceptable salt thereof.

8. (Currently Amended) The compound of claim 1 wherein

R^4 is selected from the group consisting of



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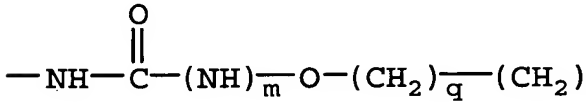

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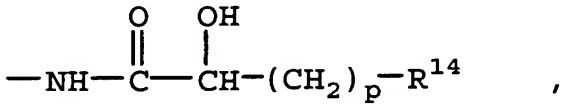

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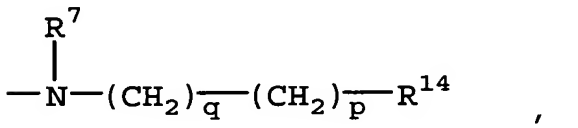

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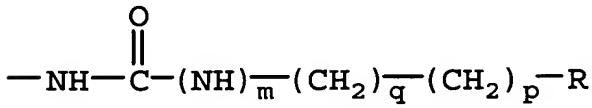
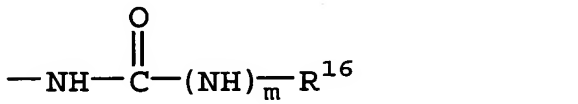


and



wherein R^7, A, m, p and q are each as defined in claim 1,

R^{14} is amino, mono or di(lower)alkylamino, aryl(lower)alkylamino or acylamino ~~or protected amino~~,

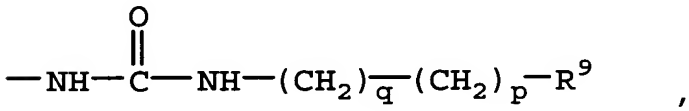
R^{15} is guanidino or ~~protected~~ aryl guanidino, and

R^{16} is saturated 3- to 8-membered heterocyclic group containing

1 to 4 nitrogen atoms optionally substituted by amino, aryl(lower)alkylamino or acylamino ~~or protected amino~~,

or a pharmaceutically acceptable salt thereof.

9. (Currently Amended) The compound of claim 1 wherein R^4 is selected from the group consisting of



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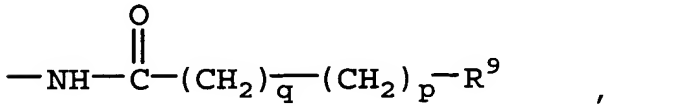

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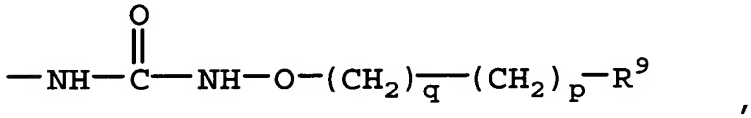

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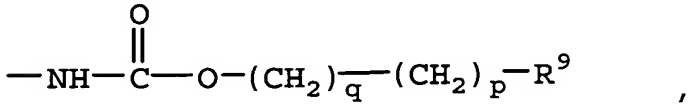

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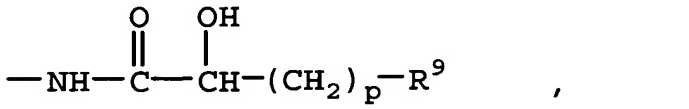

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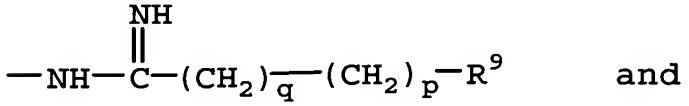
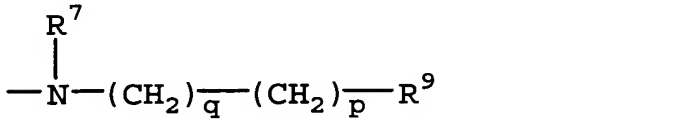


and



wherein

p is 0, 1 or 2,

q is 0 or 1,

R^7 is hydrogen, aryl(lower)alkyl or acyl ~~or amino protecting~~

~~group~~, and

R^9 is amino, aryl(lower)alkylamino or acylamino ~~or protected amino~~,

or a pharmaceutically acceptable salt thereof.

10. (Original) The compound of claim 9 wherein

R^7 is hydrogen, lower alkanoyl or lower alkoxycarbonyl; and

R^9 is amino, lower alkanoylamino or lower alkoxycarbonylamino,

or a pharmaceutically acceptable salt thereof.

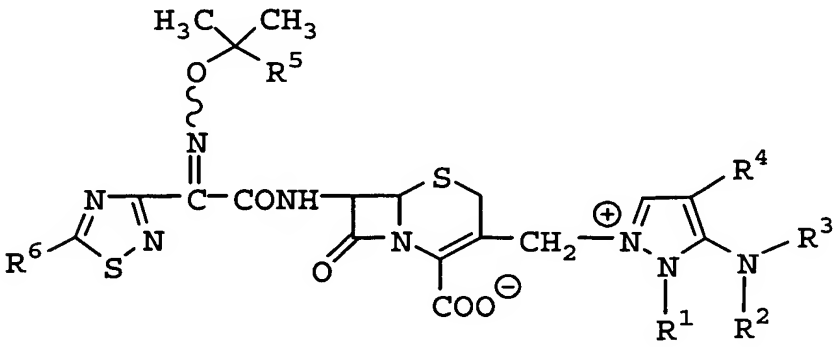
11. (Original) The compound of claim 10 wherein

R^7 is hydrogen or lower alkanoyl; and

R^9 is amino,

or a pharmaceutically acceptable salt thereof.

12. (Currently Amended) A process for preparing a compound of the formula [I]:



[I]

wherein

R^1 is lower alkyl, hydroxy(lower)alkyl or halo(lower)alkyl, and

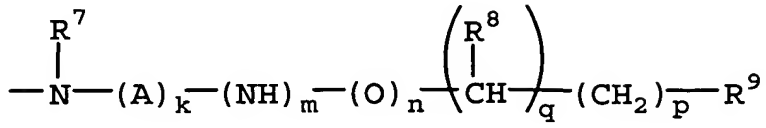
R^2 is hydrogen, aryl(lower)alkyl or acyl ~~or amino-protecting~~

~~group~~, or

R^1 and R^2 are bonded together and form lower alkylene or lower alkenylene;

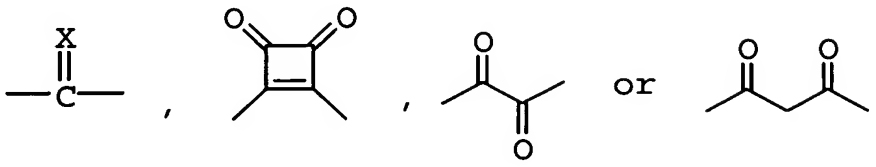
R^3 is hydrogen or lower alkyl;

R^4 is



wherein

A is



wherein X is O or NH,

R^7 is hydrogen, lower alkyl, aryl(lower)alkyl or acyl ~~or amino protecting group~~,

R^8 is hydrogen or hydroxy,

R^9 is amino, mono or di(lower)alkylamino, ~~protected amino~~ aryl(lower)alkylamino, acyl amino, guanidino, ~~protected~~ acyl guanidino or saturated 3- to 8-membered heterocyclic group containing 1 to 4 nitrogen atoms optionally substituted by amino, aryl(lower)alkylamino or acylamino ~~or protected amino~~,

k, m, n and q are independently 0 or 1, and

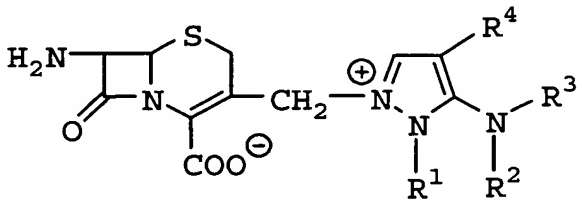
p is 0, 1, 2 or 3;

R^5 is carboxy or an esterified carboxy ~~protected carboxy~~; and

R^6 is amino , aryl(lower)alkylamino or acylamino ~~or protected amino~~,

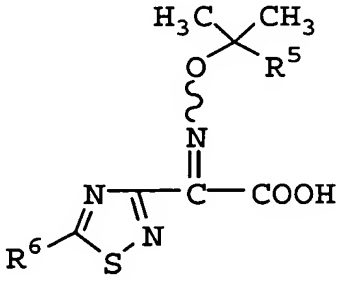
or a salt thereof, which comprises

(1) reacting a compound of the formula [II]:



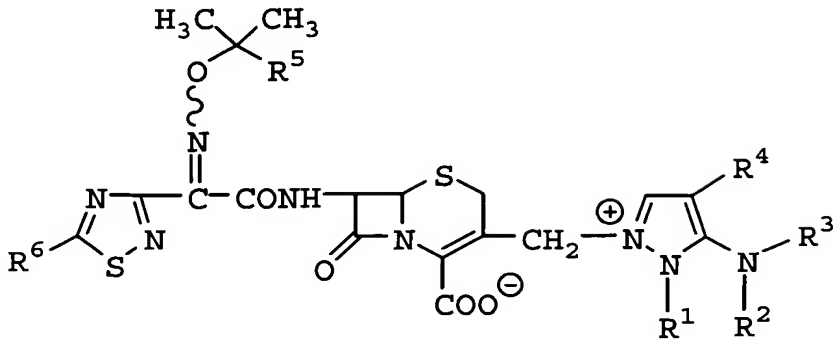
[II]

wherein R^1, R^2, R^3 and R^4 are each as defined above, or its reactive derivative at the amino group, or a salt thereof with a compound of the formula [III]:



[III]

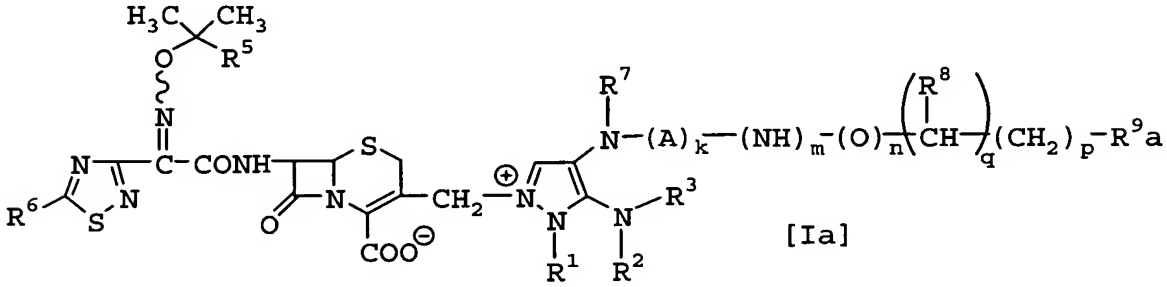
wherein R^5 and R^6 are each as defined above, or its reactive derivative at the carboxy group, or a salt thereof to give a compound of the formula [I]:



[I]

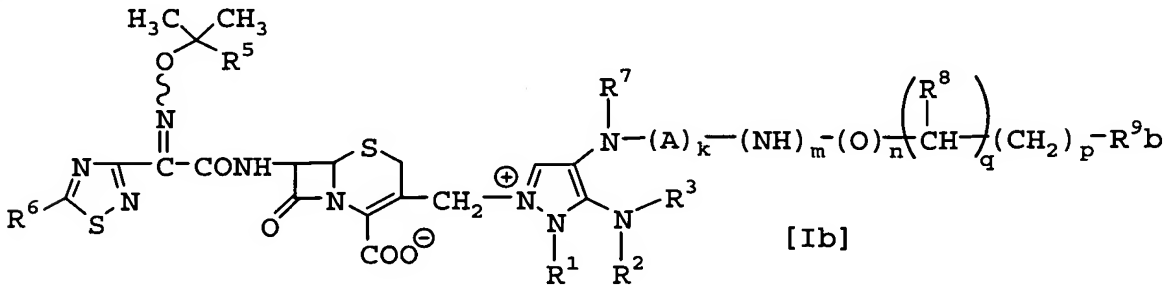
wherein R^1, R^2, R^3, R^4, R^5 and R^6 are each as defined above, or a salt thereof, or

(2) subjecting a compound of the formula [Ia]:



[Ia]

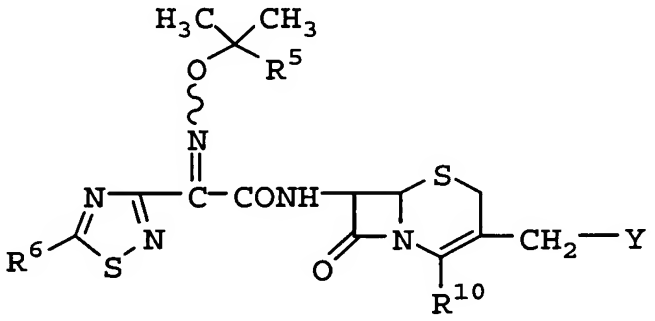
wherein R^1, R^2, R^3, R^5, R^6, R^7, R^8, A, k, m, n, p and q are each as defined above, and R^9a is , aryl(lower)alkylamino or acylamino ~~or protected amino~~, ~~protected~~ acylguanidino or saturated 3- to 8-membered heterocyclic group containing 1 to 4 nitrogen atoms substituted by aryl(lower)alkylamino or acylamino ~~or protected amino~~, or a salt thereof to elimination reaction of ~~the amino~~ a protecting group on the amino to give a compound of the formula [Ib]:



[Ib]

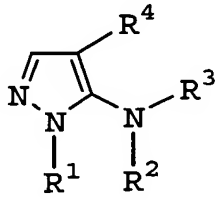
wherein R^1, R^2, R^3, R^5, R^6, R^7, R^8, A, k, m, n, p and q are each as defined above, and R^9b is amino, guanidino or saturated 3- to 8-membered heterocyclic group containing 1 to 4 nitrogen atoms substituted by amino, or a salt thereof, or

(3) reacting a compound of the formula [VI]:



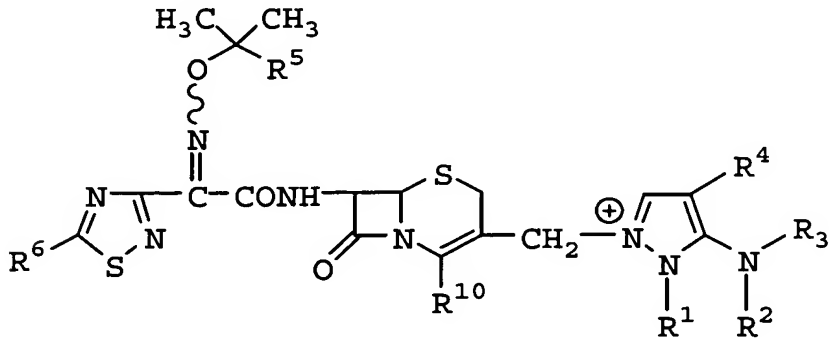
[VI]

wherein R^5 and R^6 are each as defined above, R^{10} is an esterified carboxy ~~protected carboxy~~, and Y is a leaving group, or a salt thereof with a compound of the formula [VII]:



[VII]

wherein R^1, R^2, R^3 and R^4 are each as defined above, or a salt thereof to give a compound of the formula [VIII]:

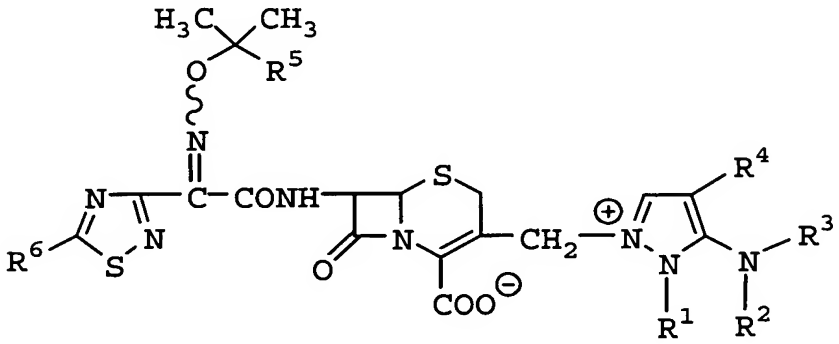


[VIII]

wherein R^1, R^2, R^3, R^4, R^5, R^6 and R^{10} are each as defined above,

and $Z^{\ominus}$ is an anion, or a salt thereof, and

subjecting the compound of the formula [VIII] or a salt thereof to elimination reaction of the group protecting the esterified carboxy ~~protecting group~~, to give a compound of the formula [I]:



[I]

wherein R^1, R^2, R^3, R^4, R^5 and R^6 are each as defined above, or a salt thereof.

13. (Original) A pharmaceutical composition comprising a compound of claim 1 or a pharmaceutically acceptable salt thereof in admixture with a pharmaceutically acceptable carrier.

Claims 14-16 (Cancelled)

17. (Currently Amended) A method for ~~the treatment of infectious diseases which~~ treating a bacterial infection comprising administering a compound of claim 1 or a pharmaceutically acceptable salt thereof to human or animals.

18. (New) The compound of claim 1, which is 7β-[(Z)-2-(5-amino-1,2,4-thiadiazol-3-yl)-2-(1-carboxy-1-methylethoxyimino)acetamido]-3-[7-(3-aminopropionamido)-2,3-dihydro-5-(1H-imidazo[1,2-b]pyrazolio)]methyl-3-cephem-4-carboxylate.

19. (New) The compound of claim 1, which is 7β-[(Z)-2-(5-amino-1,2,4-thiadiazol-3-yl)-2-(1-carboxy-1-methylethoxyimino)acetamido]-3-[3-amino-4-(3-aminopropionamido)-2-methyl-1-pyrazolio]methyl-3-cephem-4-carboxylate.

20. (New) The compound of claim 1, which is 7β-[(Z)-2-(5-amino-1,2,4-thiadiazol-3-yl)-2-(1-carboxy-1-methylethoxyimino)acetamido]-3-[3-amino-4-(aminoacetyl)amino-2-methyl-1-pyrazolio]methyl-3-cephem-4-carboxylic acid hydrogen sulfate.

21. (New) The compound of claim 1, which is 7β-[(Z)-2-(5-amino-1,2,4-thiadiazol-3-yl)-2-(1-carboxy-1-methylethoxyimino)acetamido]-3-{3-amino-4-[3-(2-aminoethyl)ureido]-2-methyl-1-pyrazolio}methyl-3-cephem-4-carboxylic acid hydrogen sulfate.

22. (New) The compound of claim 1, which is 7β-[(Z)-2-(5-

amino-1,2,4-thiadiazol-3-yl)-2-(1-carboxy-1-methylethoxyimino)acetamido]-3-(3-amino-4-guanidino-2-methyl-1-pyrazolio)methyl-3-cephem-4-carboxylic acid hydrogen sulfate.